

OTAY CROSSINGS COMMERCE PARK

APPENDIX F
BIOLOGICAL RESOURCES REPORTS
to the
DRAFT SUPPLEMENTAL
ENVIRONMENTAL IMPACT REPORT

EIR 93-19-006Q, TM 5405RPL⁷
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Lead Agency:

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OTAY CROSSINGS COMMERCE PARK

**OFF-SITE BIOLOGICAL OPEN SPACE AT LONESTAR RIDGE
RESOURCE MANAGEMENT PLAN
SPA 04-006, TM5405RPL4**

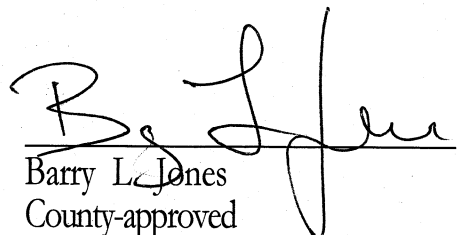
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**Otay Crossings Commerce Park
Off-site Biological Open Space at Lonestar Ridge Resource Management Plan**

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LIST OF ABBREVIATIONS

AMSL	above mean sea level
BOS	Biological Open Space
Cal-IPC	California Invasive Plant Inventory
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
County	County of San Diego
DPLU	Department of Planning and Land Use
EOMSP	East Otay Mesa Specific Plan
GDP	General Development Plan
HELIX	HELIX Environmental Planning, Inc.
m	meter
MHPA	Multi-Habitat Planning Area
MOU	Memorandum of Understanding
MSCP	Multiple Species Conservation Program
PAR	Property Analysis Record
QCB	Quino checkerspot butterfly
RMP	Resource Management Plan
SR	State Route
TM	Tentative Map
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Resource Management Plan (RMP) has been prepared for the proposed 82-acre Otay Crossings Commerce Park Off-Site Biological Open Space (BOS) preserve at Lonestar Ridge in accordance with mitigation requirements identified in the biological technical report (HELIX Environmental Planning, Inc. [HELIX] 2010a). This RMP provides direction for the permanent preservation and management of the BOS preserve in accordance with County of San Diego (County) regulations.

1.1 PURPOSE OF RESOURCE MANAGEMENT PLAN

The purpose of this RMP is to provide guidance to ensure preservation of existing native habitats and long-term management of the BOS. This RMP:

1. Guides management of vegetation communities and habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural resources;
2. Serves as a descriptive inventory of vegetation communities and plant and animal species that occur within the BOS;
3. Serves as a descriptive inventory of archaeological and/or historical resources that occur within the BOS;
4. Establishes the baseline conditions from which adaptive management will be determined and success will be measured; and
5. Provides an overview of the operation, maintenance, administrative, and personnel requirements to implement management goals, and serves as a budget planning aid.

The Otay Crossings Commerce Park project site is a Tentative Map (TM) and Preliminary Grading Plan (Tract 5405) for land designated for Mixed Industrial, Rural Residential, and State Route ([SR]; i.e., SR 11) use in Subarea 2 of the East Otay Mesa Specific Plan (EOMSP). The TM would subdivide the 311.5-acre property into 56 industrial lots, with the potential SR 11 alignment and Port of Entry occurring on portions of 2 lots and biological open space easements over portions of 5 lots. Biological open space at Lonestar Ridge will consist of a total of 82 acres divided into 2 parcels: a 20-acre northern parcel and a 62-acre southern parcel.

Project-related direct impacts to vegetation communities include: 0.97 acre of tamarisk scrub, 0.1 acre of native grassland, 2.0 acres of Diegan coastal sage scrub (including disturbed), 263.3 acres of non-native grassland, 1.0 acre of eucalyptus woodland, 0.7 acre of agricultural land, 20.8 acres of disturbed habitat, and 5.7 acres of developed land. Indirect impacts associated with construction activities and edge effects also would occur.

Impacts to 72 individual San Diego barrel cacti (*Ferocactus viridescens*), 138 individual San Diego marsh-elder (*Iva hayesiana*), 44 individual San Diego sunflower (*Viguiera laciniata*), and 15 individual small-flowered morning glory (*Convolvulus simulans*) would occur upon project implementation.

Four (4) burrowing owl (*Athene cunicularia*) locations would be directly or indirectly impacted, as well as 2 locations where Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) were

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observed during 2001 focused surveys. The project would also impact habitat occupied by Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), western spadefoot (*Spea hammondi*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), California horned lark (*Eremophila alpestris*), loggerhead shrike (*Lanius ludovicianus*), grasshopper sparrow (*Ammodramus savannarum*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and golden eagle (*Aquila chrysaetos*).

Preservation of 82 acres on Lonestar Ridge, plus 47.4 acres on the Otay Crossings Commerce Park project site, 84 acres at O'Neal Canyon, and 40 acres on the Ramona Grasslands (each covered under a separate RMP), will permanently protect a total of 253.4 acres of habitat supporting numerous sensitive species. If the Otay Crossings project moves forward ahead of other projects in the area with overlapping impacts and mitigation requirements, an additional 9.2 acres of the Lonestar Ridge parcel and 3.7 acres of the Martz parcel would be acquired for mitigation.

1.1.1 Conditions and/or Mitigation Measures that Require an RMP

This RMP satisfies County requirements for public review of the project pursuant to the California Environmental Quality Act and conditions that will be part of the Resolution of Approval. Project conditions requiring an RMP include mitigation for impacts to Diegan coastal sage scrub, non-native grassland, sensitive plants (San Diego barrel cactus and San Diego marsh elder), and sensitive animals (burrowing owl, QCB, Riverside fairy shrimp, San Diego fairy shrimp, California horned lark, grasshopper sparrow, loggerhead shrike, northern harrier, white-tailed kite, golden eagle, western spadefoot, and coastal western whiptail).

1.1.2 Agency Review and Coordination

A copy of the final RMP will be submitted to the U.S Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) for approval.

1.2 IMPLEMENTATION

1.2.1 Responsible Parties

The project applicant will contract with a qualified entity to serve as Resource Manager. The USFWS, CDFG, County Department of Planning and Land Use (DPLU), and project applicant will jointly approve the selection of a Resource Manager, who must be an established conservancy group or land manager, County Department of Parks and Recreation, County Department of Public Works, a federal or state wildlife agency, or a federal land manager. Additionally, the Resource Manager must possess the following qualifications:

- Ability to carry out habitat monitoring or mitigation activities;
- Fiscal stability, including preparation of an operational budget (using an appropriate analysis technique) for the management of this RMP;
- Resource managers must have at least 1 staff member with a biological, ecological, or wildlife management degree;

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- Resource managers must have a cultural resource professional on staff or a memorandum of understanding with a cultural consultant; and
- Experience with habitat management in southern California.

All BOS and/or conservation easements must be recorded prior to initiation of project impacts. Fee title of all BOS must be transferred to the Resource Manager prior to the Resource Manager initiating long-term management responsibilities. Management responsibility for the 82 acres of land dedicated as off-site BOS at Lonestar Ridge will begin upon completion of the Off-site Vernal Pool Mitigation Plan (HELIX 2010b) and the Off-site Quino Checkerspot Butterfly and Burrowing Owl Mitigation Plan (HELIX 2010c) for the site.

1.2.2 Financial Responsibility/Mechanism

The project applicant is responsible for all RMP funding requirements, including direct funds to support the RMP start-up tasks as well as either an on-going funding source, or a one-time non-wasting endowment, which is tied to the property to fund long-term RMP implementation. Currently, it is anticipated that long-term management funding will be provided through annual assessments of the Property Owners Association for the Otay Crossings Commerce Park or similar vehicle. Start-up tasks include fence installation and posting of signage along the southern boundary of the 62-acre BOS parcel, as well as data base compilation for both sites. Long-term tasks involve the management and maintenance of the preserve in perpetuity, including habitat monitoring and mapping, exotic species control, and general monitoring and reporting. These habitat management tasks commence immediately upon completion of the Off-site Vernal Pool Mitigation Plan (HELIX 2010b) and the Off-site Quino Checkerspot Butterfly and Burrowing Owl Mitigation Plan (HELIX 2010c) for the site.

1.2.3 Cost Estimate/Budget

A Property Analysis Record (PAR) and cost estimate will be prepared for the 82-acre BOS when a Resource Manager has been identified.

1.2.4 Reporting Requirements

An annual letter report will be submitted to the USFWS, CDFG, and County that will summarize the previous year's management and monitoring as well as that anticipated for the upcoming year. The report will provide a summary of methods employed, identify new management issues, and address the success or failure of previous management approaches based on monitoring. It shall include a summary of the overall condition of vegetation communities and sensitive species in the BOS, assess any changes from the baseline or from the previous year's conditions, and address any monitoring and management limitations. All adaptive management (changes) resulting from previous monitoring results and methods for measuring the success for such adaptive management will be discussed.

The results of all updated vegetation mapping and sensitive plant and animal surveys should be included in the annual letter reports.

1.2.5 Memorandum of Understanding

The County requires a Memorandum of Understanding (MOU) with the project applicant, County, and Resource Manager to be provided upon County acceptance of this RMP. The MOU will state that the applicant agrees to implement the RMP, which includes a financing mechanism that provides perpetual funding that is adequate to pay the costs of all RMP management activities. The MOU shall provide a mechanism of the funds to transfer to the County in the event of failure of the Resource Manager to meet the goals outlined in this RMP. The MOU shall also provide that all RMP funding has been provided or that the funding mechanism has been established prior to the approval of grading or improvement plans, or prior to approval of the Parcel/Final Map, whichever is first.

2.0 PROPERTY DESCRIPTION

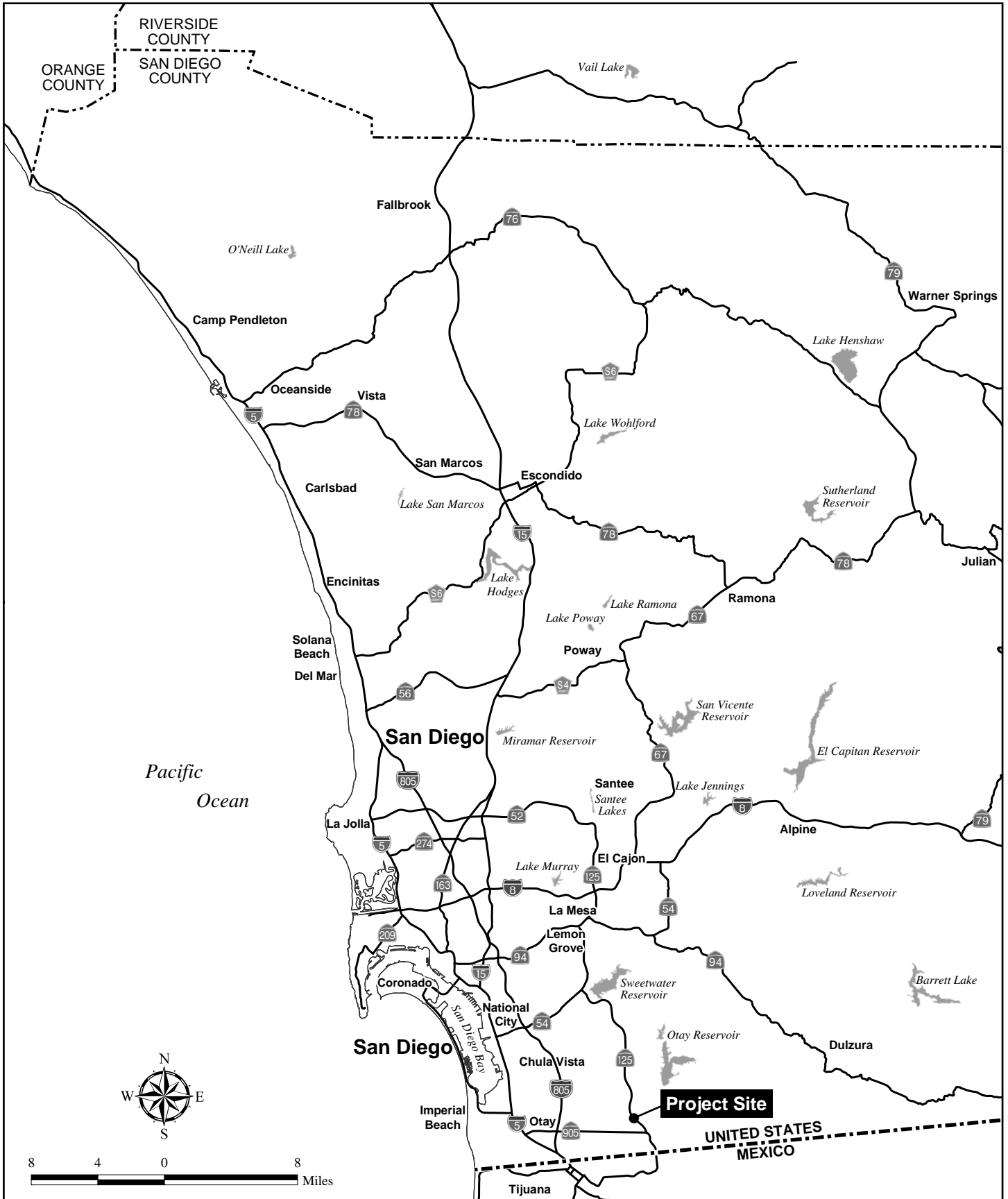
2.1 LEGAL DESCRIPTION

The Otay Crossings Commerce Park off-site BOS at Lonestar Ridge is located in the southeastern portion of Otay Mesa within San Diego County (Figure 1). Lonestar Ridge is located on 272.7 acres (excluding SR 125 lands) within the City of San Diego south of the Otay River Valley, northeast of Brown Field Airport (Figure 2). The northern boundary of the site is also the boundary separating the site from the City of Chula Vista and County. The BOS consists of 82 acres in the eastern half of the overall Lonestar Ridge property, east of SR 125, and occupies portions of Sections 23 and 26 within Township 18 South, Range 1 West of the U.S. Geological Survey 7.5-minute Otay Mesa quadrangle (Figure 2). The BOS consists of all or part of the following Assessor's Parcel Numbers: 646-070-38 and 646-030-16 (Figure 3).

2.2 GEOGRAPHICAL SETTING

The majority of the site is on a relatively flat mesa with portions dropping off into Johnson Canyon on the south side of the Otay River Valley (Figure 2). Elevations range from approximately 380 feet above mean sea level (AMSL) at points along the side slopes of Johnson Canyon to approximately 530 feet AMSL on the mesa top. Access to the site is via Lone Star Road, which parallels a portion of the southern boundary of the 62-acre parcel. Access to the 20-acre BOS parcel will be ensured through an access easement covering adjacent preserved lands.

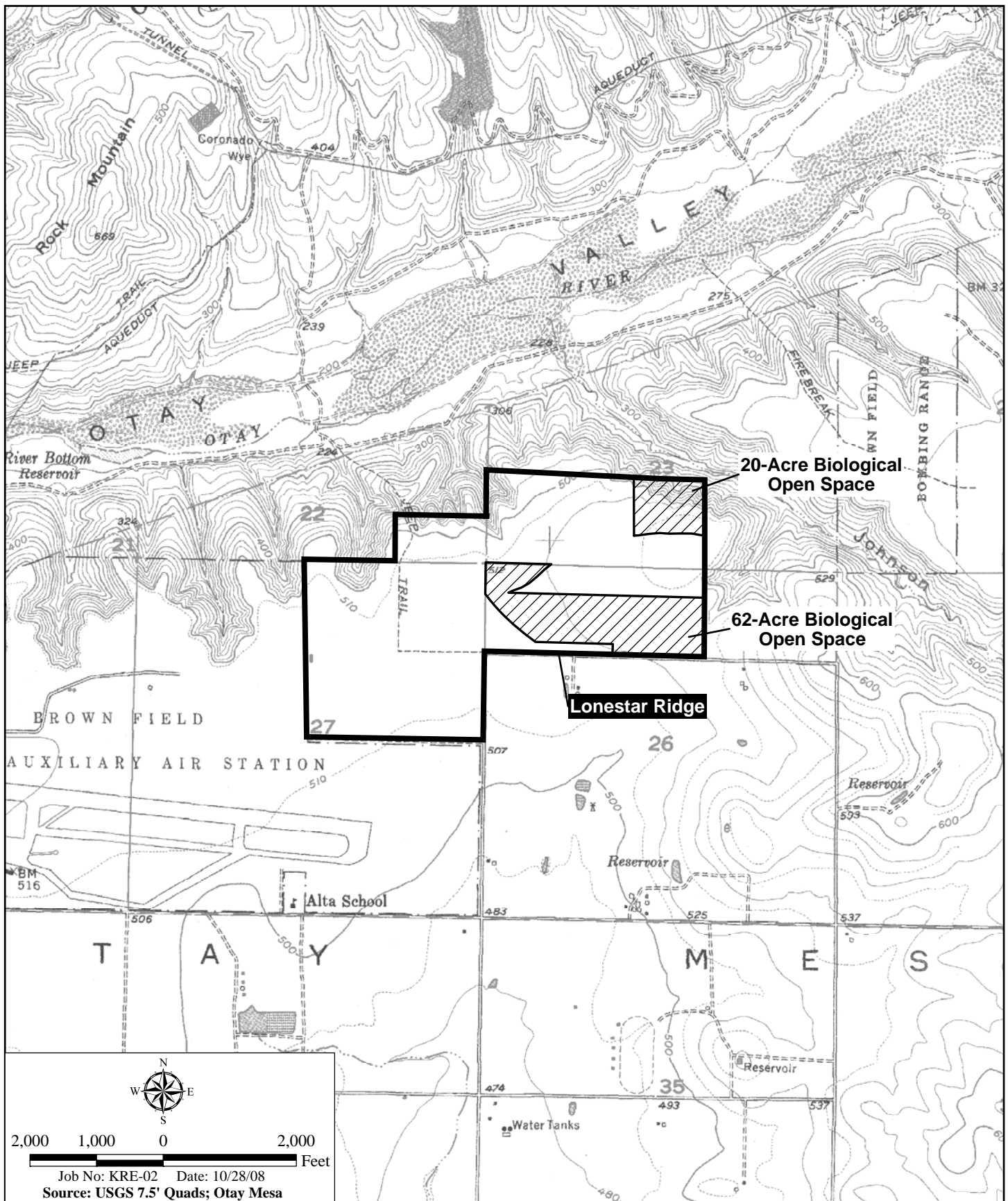
The 20-acre BOS parcel and the western portion of the 62-acre BOS parcel are located within the City of San Diego's Multi-Habitat Planning Area (MHPA; Figure 3). Land north of the 20-acre BOS parcel and east of both BOS parcels is within Multiple Species Conservation Program (MSCP) Preserve. The BOS is located in the Otay Ranch General Development Plan and is identified as the "Baldwin Otay Business Park" in Section 1.2 of the City's MSCP. A second 20-acre parcel along the west side of the 20-acre BOS parcel is mitigation land purchased for the Otay Business Park project. Land between the 62-acre and 20-acre BOS parcels is mitigation land for SR 125.



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Regional Location Map

LONESTAR RIDGE RESOURCE MANAGEMENT PLAN



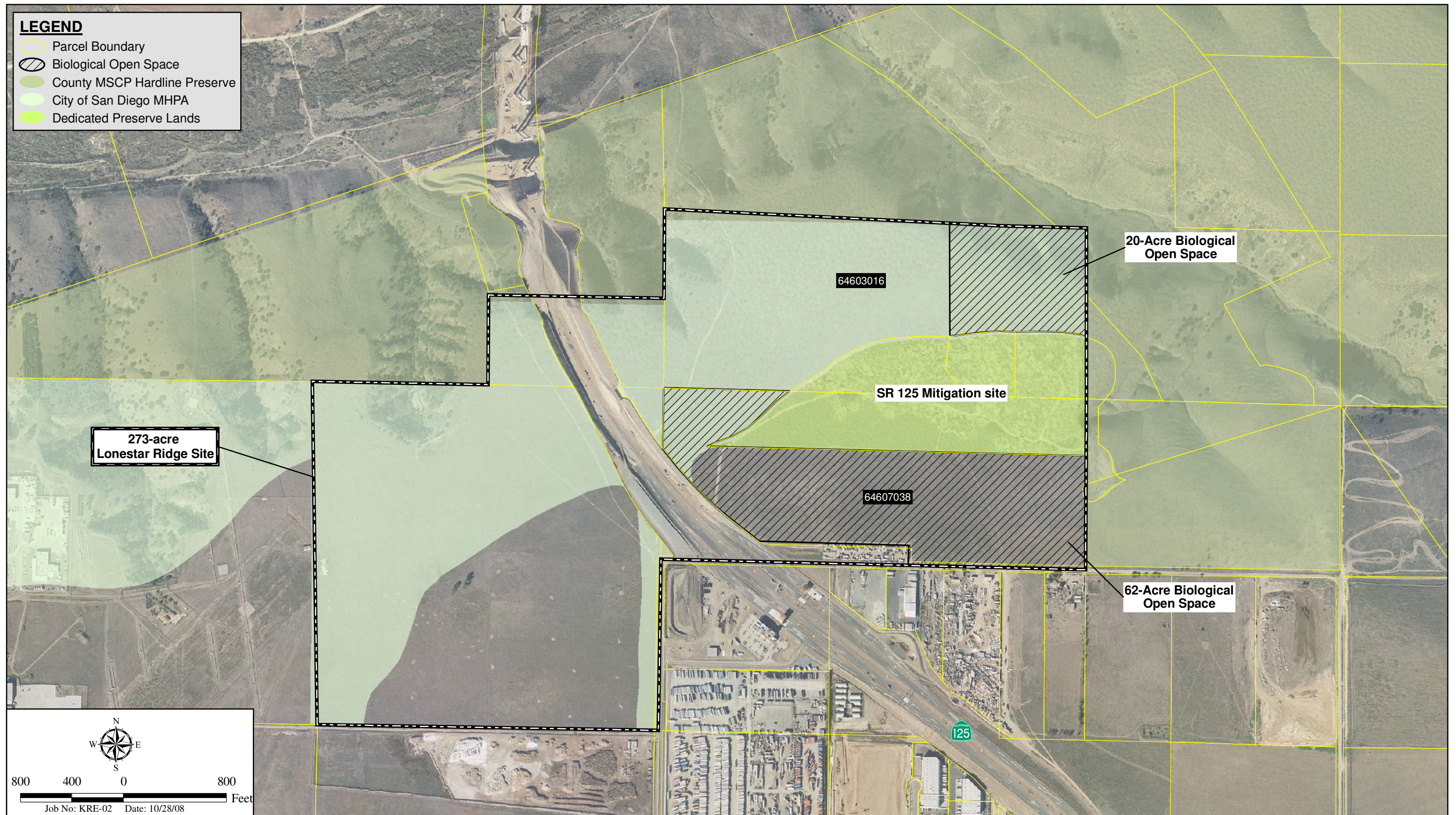
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Project Location Map

LONESTAR RIDGE RESOURCE MANAGEMENT PLAN

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Figure 2



Regional Context

LONESTAR RIDGE RESOURCE MANAGEMENT PLAN

Figure 3

2.3 LAND USE

The vast majority of the site has been subject to cattle grazing, while various crops and orchards were planted on the southern portion of the site in the mid 1900s. There are no existing structures on site. Land uses in the surrounding area include Brown Field Airport to the southwest, industrial uses to the south, and the R.J. Donovan State Prison and George F. Bailey County Correctional Facility to the east. The residential areas of Otay Ranch are located just north of the MSCP open space and Otay River Valley. The SR 125 corridor is located just west of the BOS (Figure 3).

2.4 GEOLOGY, SOILS, CLIMATE, AND HYDROLOGY

The BOS is located in the Peninsular Range Geomorphic Province of southern California. Soils on the mesa portions of the BOS are primarily Stockpen gravelly clay loam, with small amounts of Diablo clay and Linne clay loam in the easternmost portion of the 62-acre parcel, and Olivenhain cobbly loam occurring along the Otay River Valley's slopes in the northeastern corner of the 20-acre parcel (Bowman 1973). The clay loam soils generally tend to support rare and sensitive plants.

The climate in San Diego County is generally mild and arid. Temperatures in Otay Mesa are generally highest in September (mean high temperatures are 79°F) and lowest in December (mean low temperatures are 45°F). Average annual precipitation in the Otay Mesa is approximately 9.9 inches, with the highest average rainfall totals occurring in January and February (1.99 inches) and March (2.07 inches). The driest months are June, July, and August with approximately 0.08, 0.03, and 0.08 inch of rainfall per month, respectively (Weather.com 2008).

The site is located within the Otay Valley Hydrologic Area of the Otay Hydrologic Unit. No drainages occur within the 20-acre or 62-acre BOS parcels. The 20-acre BOS parcel drains north into Johnson Canyon, while the 62-acre BOS parcel drains to the south and west.

2.5 TRAILS

No trails are located within the BOS and no trails are proposed.

2.6 EASEMENTS OR RIGHTS

No easements issued to others exist within or across the BOS.

2.7 FIRE HISTORY

The rate of fires in San Diego County coastal shrublands generally increased over the last half of the 20th century. Over 600 fires have occurred in the foothills and mountains of San Diego County between 1910 and 1999, and several major fires in excess of 50,000 acres have occurred in recent years, likely as a result of drought conditions. The BOS did not burn in the 2003 or 2007 fires, or in recent preceding years.

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3.0 BIOLOGICAL RESOURCES DESCRIPTION

3.1 VEGETATION COMMUNITIES

Four vegetation communities occur within the BOS: vernal pool (including basins with fairy shrimp), pond, Diegan coastal sage scrub, and non-native grassland (Table 1; Figure 4).

Table 1 VEGETATION COMMUNITIES WITHIN THE BOS	
Vegetation Community/Habitat	Acre(s) †
Vernal pool (44320)	0.24
Pond (64140)	0.07
Diegan coastal sage scrub (including disturbed; 32500)	7.2
Non-native grassland (42220)	74.5
TOTAL	82.0

*Vegetation categories and numerical codes are from Holland (1986), Oberbauer (2008)

†Wetland habitats are rounded to the nearest 0.01 acre and upland habitats are rounded to the nearest 0.1 acre; thus, totals reflect rounding

3.1.1 Vernal Pools

Vernal pools, a highly specialized habitat supporting a unique flora and fauna, are associated with 2 important physical conditions on Otay Mesa: a subsurface claypan that inhibits the downward percolation of water and topography characterized by a series of low hummocks (mima mounds) and depressions (vernal pools). These two physical conditions allow water to collect in the depressions during the rainy season, which gradually evaporates. As water evaporates, a gradient of low soil water availability to high soil water availability is created from the periphery of the pool margins to the center of the pool. The chemical composition of the remaining pool water becomes more concentrated as water evaporates, creating a gradient of low ion concentration at the pool periphery to high ion concentration at the pool center. A temporal succession of plant species occurs at the receding pool margins, depending on physical and chemical microenvironmental pool characteristics. Vernal pools in a wet year will have a high proportion of native species endemic to this habitat. During these years, exotic ruderal species characteristic of non-native grasslands that occur on the surrounding mima mounds will not invade these pools, as they are unable to tolerate the physiological conditions. In years of scarce rainfall insufficient to saturate the soil and create a surface pool, native endemic flora will not germinate, and the pool will be invaded by exotic species.

A total of 28 vernal pools were identified by HELIX during surveys conducted between 2003 and 2007, representing approximately 0.24 acre. An additional 36 vernal pools were identified by Dudek during previous surveys (Figure 4) but size data was not available. The vernal pools on Lonestar Ridge are part of the J23 through J31 series originally identified by Bauder (1986) and mapped in greater detail by Dudek (1992).

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Vernal pools on site have been degraded by past agricultural activities. Most of the vernal pools on site have a high composition of non-native grasses and forbs and generally only support 1 or 2 vernal pool indicator plant species.

3.1.2 Pond

A small cattle pond occurs in the northwestern corner of the 62-acre BOS parcel. This pond is filled by rainfall and supports species such as African brass-buttons (*Cotula coronopifolia*), hedge-nettle (*Stachys ajugoides* var. *rigida*), and tamarisk (*Tamarix* sp.). The pond covers approximately 0.07 acre and is of low quality based on its small size combined with the presence of highly invasive wetland/riparian species.

3.1.3 Diegan Coastal Sage Scrub (including disturbed)

Coastal sage scrub is 1 of the 2 major shrub types that occur in California. This habitat type occupies xeric sites characterized by shallow soils. Sage scrub is dominated by subshrubs whose leaves abscise during drought. The Diegan coastal sage scrub within the BOS supports several plant species including lemonadeberry (*Rhus integrifolia*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and various flowering annuals. Diegan coastal sage scrub occurs on the canyon slopes in the northern portion of the 20-acre BOS parcel, comprising approximately 7.2 acres. This habitat is of low to moderate quality, with sparsely spaced native shrubs and an herbaceous layer supporting native and non-native grasses and forbs.

3.1.4 Non-native Grassland

Non-native grassland areas may have supported native grassland in the past, but have been overrun by exotic, introduced annuals. The flora of non-native grasslands includes a dense to sparse cover of introduced grasses and often numerous species of showy-flowered, native, annual forbs (Holland 1986). Characteristic species of the non-native grassland within the BOS include oats (*Avena* spp.), red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*Bromus diandrus*), ryegrass (*Lolium* sp.), and mustard (*Brassica* sp.), as well as numerous native annuals such as blue-eyed grass (*Sisyrinchium bellum*), Fremont's camas (*Zigadenus fremontii*), goldfields (*Lasthenia californica*), popcorn flower (*Cryptantha* sp.), blue dicks (*Dichelostemma capitatum*), dwarf plantain (*Plantago erecta*), purple owl's-clover (*Castilleja exserta*), onion (*Allium* sp.), checker-bloom (*Sidalcea malviflora*), small-flower soap-plant (*Chlorogalum parviflorum*), as well as San Diego barrel cactus. The entire 62-acre BOS parcel and 12.5 acres of the 20-acre BOS parcel support non-native grassland, for a total of approximately 74.4 acres of this habitat within the BOS. The eastern half of the 62-acre parcel and the 20-acre parcel are the areas of highest quality non-native grassland, supporting a mix of non-native and native grasses, and many native forbs, as well as exhibiting mima mound topography in some areas. The western half of the 62-acre parcel has the lowest quality grassland habitat on site, with a higher component of non-native grasses as well as mustard.

3.2 PLANT SPECIES

3.2.1 Plant Species Present and Correlation with Habitat On Site

A total of 106 plant species were observed on the 273-acre Lonestar Ridge property during the 2003 and 2005 rare plant surveys as well as during other biological surveys conducted between 2002 and 2007 (Appendix A). Of the 106 species observed, 103 occur in plant communities represented within the BOS portion of the Lonestar Ridge site.

3.2.2 Rare, Threatened, or Endangered Plant Species Present or Likely to Occur

Six (6) sensitive plant species were observed during biological surveys within the Lonestar Ridge BOS, including 1 federally and state listed endangered species (San Diego button-celery [*Eryngium aristulatum* var. *parishii*]), and 1 federally listed threatened and state listed endangered species (Otay tarplant [*Deinandra conjugens*]). All 6 species observed are considered sensitive by the California Native Plant Society (CNPS) and County, which include the 2 aforementioned species as well as variegated dudleya (*Dudleya variegata*), San Diego barrel cactus, graceful tarplant (*Holocarpha virgata* ssp. *elongata*), and decumbent goldenbush (*Isocoma menziesii* var. *decumbens*). Each of these species is further discussed below and is depicted on Figure 4. A list of sensitive plant species with potential to occur within the BOS is provided in Appendix B.

Otay tarplant (*Deinandra conjugens*)

Listing: FT/SE; CNPS List 1B.1; MSCP Narrow Endemic (NE); MSCP Covered; County Group A

Distribution: Southern San Diego County and northwestern Baja California, Mexico (Baja). In San Diego County, occurs in scattered localities from the Sweetwater Reservoir to the U.S./Mexico border.

Habitat: Clay soils in coastal sage scrub; valley and foothill grasslands

Status on site: Approximately 330,000 individuals were observed in the eastern portion of the 62-acre BOS parcel

MSCP Management Requirements: Area specific management directives must include specific measures for monitoring of populations, adaptive management of preserved populations (taking into consideration the extreme population fluctuations and from year to year), and specific measures to protect against detrimental edge effects to this species

Variegated dudleya (*Dudleya variegata*)

Listing: --/--; CNPS List 1B.2; MSCP NE; MSCP Covered; County Group A

Distribution: San Diego and Baja

Habitat: Valley and foothill grassland, chaparral, coastal scrub, cismontane woodland, and vernal pools below 1,800 feet AMSL

Status on site: Approximately 67,000 individuals observed in non-native grassland in the central and western portions of the 62-acre BOS parcel in addition to approximately 920 individuals observed in the 20-acre BOS parcel

MSCP Management Requirements: Area specific management directives must include species-specific monitoring and specific measures to protect against detrimental edge effects to this species, including effects caused by recreational activities. Some populations now occur within a Major Amendment Area (Otay Mountain), and at the time permit amendments are proposed, strategies to provide protection for this species within the Amendment Area must be included.

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San Diego button-celery (*Eryngium aristulatum* var. *parishii*)

Listing: FE/SE; CNPS List 1B.1; County Group A; County MSCP Covered

Distribution: San Diego and Riverside counties; Baja California, Mexico

Habitat: Vernal pools or mima mound areas with vernal moist conditions are preferred habitat

Status on site: Species was observed by Dudek in 11 vernal pools on site

MSCP Management Requirements: Area specific management directives must include specific measures to protect against detrimental edge effects.

San Diego barrel cactus (*Ferocactus viridescens*)

Listing: --/--; CNPS List 2.1; MSCP Covered; County Group B

Distribution: San Diego County and Baja

Habitat: Dry slopes in coastal sage scrub

Status on site: Approximately 264 individuals were observed in the 20-acre BOS parcel

MSCP Management Requirements: Area specific management directives must include measures to protect this species from edge effects and unauthorized collection. Directives should also include appropriate fire management/control practices to protect against a too frequent fire cycle.

Graceful tarplant (*Holocarpha virgata* ssp. *elongata*)

Listing: --/--; CNPS List 4.2; CA Endemic; County Group D

Distribution: San Diego, Orange, and Riverside counties

Habitat: Coastal mesas and foothills with grassland habitats

Status on site: Species was observed in 3 locations within the 20-acre BOS parcel. A count of individual plants was not completed.

MSCP Management Requirements: Area specific management directives have not been established for this species.

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)

Listing: --/--; CNPS List 1B.2; County Group A

Distribution: Orange and San Diego counties; Baja California, Mexico; San Clemente and Santa Catalina islands

Habitat: Presumed to utilize coastal sage scrub habitat intermixed with grassland and is more partial to clay soils than other closely related varieties

Status on site: Species was observed in 3 locations within the 20-acre BOS parcel. A count of individual plants was not completed.

MSCP Management Requirements: Area specific management directives have not been established for this species.

3.2.3 Non-native and/or Invasive Plant Species

Several non-native grasses and forbs occur within the BOS, and are identified in Appendix A. The species posing the greatest management issue is mustard (*Brassica* sp.).

3.3 WILDLIFE SPECIES

3.3.1 Wildlife Species Present and Correlation with Habitat on Site

A total of 85 animal species were observed within the 273-acre Lonestar Ridge property during general and focused surveys conducted between 2002 and 2007, including 2 crustaceans, 23 butterflies (among other invertebrates), 1 amphibian, 3 reptiles, 48 birds, and 7 mammals (Appendix C). All animal species were identified by direct observation or vocalizations, presence of scat and/or tracks, or other sign. Any of these species could be expected to occur within the 82-acre BOS.

3.3.2 Rare, Threatened, or Endangered Wildlife

A total of 6 sensitive animal species have been observed/detected within the BOS (Figure 4), including 2 federally listed endangered species: San Diego fairy shrimp and QCB. The other 4 animal species observed/detected are listed as a State Species of Special Concern (SSC): burrowing owl, grasshopper sparrow, white-tailed kite, and California horned lark. Several other sensitive species have been observed/detected on the larger 273-acre Lonestar Ridge property, and are identified in the list of potentially occurring sensitive animal species in Appendix D. An explanation of status codes for both plant and animal species sensitivity status is presented in Appendix E.

San Diego fairy shrimp (*Branchinecta sandiegonensis*)

Listing: FE/--; MSCP NE; County Group 1

Distribution: San Diego County

Habitat: Seasonal pools that occur in tectonic swales or earth slump basins and other areas of shallow and standing water, often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral

Status on site: Detected in 2 vernal pools/basins within the BOS

MSCP Management Requirements: Area specific management directives must include specific measures to protect against detrimental edge effects to this species.

Quino checkerspot butterfly (*Euphydryas editha quino*)

Listing: FE/--; County Group 1

Distribution: Fifty years ago, this species was described as one of the most common butterflies in the county (Murphy 1990). Currently, populations are known to exist only as several (probably isolated) colonies in southwestern Riverside County, extreme northern San Diego County, southern San Diego County, and northern Baja.

Habitat: Generally occurs in grasslands and open sage scrub, particularly where larval host plants, including dwarf plantain (*Plantago erecta*), white snapdragon (*Antirrhinum coulterianum*), or purple owl's clover (*Castilleja exserta*), are abundant

Status on site: One (1) QCB was observed just south of the BOS on a dirt road next to the southern fence line east of SR 125 in 2003. Several individuals were observed in the central and eastern portions of the overall 273-acre Lonestar Ridge site during previous surveys for SR 125, with 1 location occurring within the 62-acre BOS parcel and a second observation just north of the 62-acre BOS parcel. No QCB were observed on site during 2005, 2006, or 2007 surveys.

MSCP Management Requirements: Area specific management directives have not been established for this species

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Grasshopper sparrow (*Ammodramus savannarum*)

Listing: --/SSC; County Group 1

Distribution: Large range across North America

Habitat: Meadows, pastures, fields, and various grasslands

Status on site: Observed throughout grassland areas

MSCP Management Requirements: Area specific management directives have not been established for this species

Burrowing owl (*Athene cunicularia*)

Listing: --/SSC (burrow sites); MSCP NE; MSCP Covered; County Group 1

Distribution: Lower British Columbia to Manitoba, Canada; central and western U.S. south to northern Mexico and Baja

Habitat: Open areas such as grasslands, pastures, coastal dunes, desert scrub, and edges of agriculture fields

Status on site: Observed along the northern boundary of the 62-acre BOS parcel as well as in the SR 125 mitigation area located between the 62-acre and 20-acre BOS parcels for the subject project

MSCP Management Requirements: Area specific management directives must include: (1) enhancement of known, historical, and potential burrowing owl habitat and management for ground squirrels (the primary excavator of burrowing owl burrows); (2) monitoring of burrowing owl nest sites to determine use and nesting success; (3) predator control; and (4) establishing a 300 foot wide impact avoidance area around occupied burrows.

White-tailed kite (*Elanus leucurus*)

Listing: --/SSC; Fully Protected; County Group 1

Distribution: Breeds in the Pacific U.S. and winters in South America

Habitat: Nests in riparian or oak woodlands adjacent to grasslands supporting small mammals

Status on site: Two (2) individuals observed flying over grassland foraging

MSCP Management Requirements: Area specific management directives have not been established for this species

California horned lark (*Eremophila alpestris actia*)

Listing: --/SSC; County Group 2

Distribution: Coastal slopes and lowlands from Sonoma County to northern Baja

Habitat: Sandy beaches, agricultural fields, grassland, and open areas

Status on site: Observed throughout grassland areas

MSCP Management Requirements: Area specific management directives have not been established for this species

3.3.3 Non-native and/or Invasive Wildlife

The only non-native animal species that was observed on site during field surveys is the European starling (*Sturnus vulgaris*), which was introduced to North America in the 19th century. This species is widespread throughout San Diego County, where it competes for nest cavities with native birds such as the acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), and purple martin (*Progne subis*; Unitt 2004).

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3.4 OVERALL BIOLOGICAL AND CONSERVATION VALUE

The 82-acre BOS occurs both within and outside (but adjacent to) the City's MHPA and supports numerous sensitive plant and animal species, in addition to preserving coastal sage scrub, vernal pool, and grassland habitat. Land north of the 20-acre parcel and east of both parcels is within the MSCP Preserve. The BOS is also adjacent to other mitigation land, including a 20-acre parcel along the west side of the 20-acre BOS parcel (for the Otay Business Park project) as well as land between the 62-acre BOS and 20-acre BOS parcels (for SR 125). Preservation of the 62-acre BOS parcel will result in the addition of approximately 56 acres of habitat to the MHPA that was not targeted for conservation under the MSCP.

The BOS supports at least 0.24 acre of vernal pool, 7.2 acres of Diegan coastal sage scrub, and 74.5 acres of non-native grassland. Sensitive resources occurring within the BOS include 67,000 variegated dudleya, 330,000 Otay tarplant, 264 San Diego barrel cactus, an unknown number of graceful tarplant and decumbent goldenbush, and several vernal pools supporting San Diego button-celery. The Otay tarplant and variegated dudleya populations represent one of the largest known populations for these species. The BOS would also conserve 1 QCB location, 1 burrowing owl location, and 2 vernal pools/basins with San Diego fairy shrimp, as well as habitat for several other sensitive animal species, including California horned lark, grasshopper sparrow, white-tailed kite, Coronado skink, loggerhead shrike, and western spadefoot. As previously stated, the site is bounded by existing conserved lands, which in combination would secure conservation of the entire mesa in this location east of SR 125 and help achieve the goal of protecting at least 1 of the 5 owl sub-populations on Otay Mesa as well as regional populations of Otay tarplant and variegated dudleya.

3.5 ENHANCEMENT AND RESTORATION OPPORTUNITIES

As stated above, approximately 82 acres of land will be dedicated as open space. The 62-acre parcel presents an excellent opportunity to function as a long-term burrowing owl receptor site and QCB habitat enhancement within a large contiguous block of open space east of SR 125. The eastern 60 percent of the BOS has relatively low weed cover and needs minimal enhancement for burrowing owls and QCB. The western 40 percent has a much higher weed component and will be the focus of the proposed enhancement efforts. The following enhancement efforts would be conducted (HELIX 2010c):

- This portion of the site will be weeded and de-thatched during the first year to reduce non-native grass and mustard cover. A controlled burn of the site will be considered as part of the weed eradication strategy.
- The 62-acre BOS parcel will be seeded with native grasses and annuals in an attempt to overwhelm the non-native grasses with native species.
- The applicant will prepare a grading plan to develop a series of berms and mound topography for construction of artificial owl burrows.
- Natural rubble piles will be placed within the enhancement area to provide habitat for ground squirrels.
- The applicant will develop a plan for the reintroduction of ground squirrels to provide for a naturally functioning system of owl occupation of abandoned ground squirrel burrows.

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The results of these enhancement efforts will be a site with berm and mound topography ideally suited for long-term owl occupation, with a significant native grassland component and a ground squirrel population that will provide natural burrows for the owls.

To mitigate for 0.002 acre of road pool impacts occupied by San Diego fairy shrimp for the project, the creation of a minimum of 0.006 acre of vernal pool habitat supporting listed fairy shrimp is proposed on Lonestar Ridge (HELIX 2010b). These pools will be created within non-native grassland. The Resource Manager will not be responsible for maintenance of these pools until the 5-year maintenance and monitoring period for vernal pool restoration has been successfully completed.

4.0 CULTURAL RESOURCES DESCRIPTION

4.1 ARCHAEOLOGICAL RESOURCES

The Lonestar Ridge project area, which encompasses approximately 273 acres, of which 82 acres are within the BOS for this RMP, has been surveyed for cultural resources in whole or in part several times in the past, and was most recently surveyed in 2004 by Affinis (2004).

The results of Affinis' study identified 28 archaeological sites within the overall Lonestar Ridge project area, including development areas and mitigation parcels, as well as California Department of Transportation (Caltrans) right-of-way (now occupied by SR 125). Affinis archaeologists identified 6 previously undocumented sites within the 273-acre area, which, along with the other 22 sites, were assessed for cultural significance (Table 2).

Table 2 CULTURAL RESOURCES WITHIN OVERALL LONESTAR RIDGE PROJECT AREA				
Site Number (CA-SDI-#)	Site Description	Tested?	Significant?	Reference
11,210	Light lithic scatter: scrapers, choppers, flakes, cores	Yes*	No	Carrico et al. 1992; Smith 1989
11,211	Light to moderately dense lithic scatter: flaked stone tools, cores, flakes/debitage	Yes*	No**	Carrico et al. 1992; Rosen 1999; Smith 1989
11,212†	Light lithic scatter: scrapers, choppers, flakes, cores	Yes*	No**	Carrico et al. 1992; Rosen 1999; Smith 1989
11,213†	Light to moderate lithic scatter: flaked stone tools, cores, flakes, manos, metate fragments, biface point base	Yes*	No**	Carrico et al. 1992; Rosen 1999; Smith 1989

Table 2 (cont.)
CULTURAL RESOURCES
WITHIN OVERALL LONESTAR RIDGE PROJECT AREA

Site Number (CA-SDI-#)	Site Description	Tested?	Significant?	Reference
11,214	Light and widely dispersed scatter of lithic artifacts; lithic tool fragments, flakes/debitage	Yes*	No	Carrico et al. 1992; Smith 1989
11,215/11,216†	Light lithic scatter; scraper planes, scrapers, choppers, flakes	Yes*	No	Carrico et al. 1992; Smith 1989
11,217†	Light lithic scatter: scrapers, choppers, flakes, cores. Historic materials include window glass, square nails, wire, brick and mortar, kitchen items, and consumer goods	Yes*	Undetermined*	Carrico et al. 1992; Smith 1989
11,218†	Light lithic scatter: scraper, flakes. Small amount of historic material: purple glass, mortar and brick	Yes*	Undetermined*	Carrico et al. 1992; Smith 1989
11,219†	Light lithic scatter: scrapers, scraper planes hammers, flakes. Historic material includes window glass, square nails, wire, brick and mortar, kitchen items, and consumer goods.	Yes*	Undetermined*	Carrico et al. 1992; Smith 1989
11,220	Light, widely dispersed lithic scatter: scraper planes, scrapers, choppers, flakes, cores	Yes*	No***	Carrico et al. 1992; Rosen 2002; Smith 1989
11,221	Historic dump location where trash was disposed of down the slope of a canyon: glass, ironstone, metal fragments, building material, leather, kitchen items, consumer goods, iron stove parts, hinges, farm equipment, wood. Turn of 20 th century.	Yes*	Undetermined*	Carrico et al. 1992; Smith 1989

Table 2 (cont.)
CULTURAL RESOURCES
WITHIN OVERALL LONESTAR RIDGE PROJECT AREA

Site Number (CA-SDI-#)	Site Description	Tested?	Significant?	Reference
11,363	Lithic scatter: flakes and cores	No	No***	Carrico et al. 1992; Ritz et al. 1989; Rosen 2002
11,367/11,368	Sparse lithic scatter: flakes and cores	Yes	No***	Carrico et al. 1992; Ritz et al. 1989; Rosen 1990, 2002
11,951	Light lithic scatter	No	No**	Carrico et al. 1992; Rosen 1990, 1999
12,273H†	Small scatter of historic artifacts possibly associated with historic structure on 1903 USGS 30' Cuyamaca quadrangle	Yes	No	Carrico et al. 1992; Van Wormer et al. 1994
12,337†	Extremely large lithic scatter that encompasses CA-SDI-5352, -9974, -10,072, and -10,735	Yes	No	Byrd et al. 1994; Cupples and Eidsness 1978; Kyle and Gallegos 1992a-f; Kyle et al. 1996; Rosen 1990
14,210/H	Lithic scatter: scrapers, hammerstones, retouched flakes, flakes. Historic trash scatter: purple bottle fragments, bottle necks, ironstone, ceramics, metal fragments	No	Undetermined	Smith 1996
14,239	Lithic scatter: scrapers, retouched flake, core, flakes	No	No***	Rosen 2002; Smith 1996
14,241	Lithic scatter: retouched flake, flakes	No	No	Smith 1996
14,246	Lithic scatter: scrapers, retouched flake, flakes	No	No**	Rosen 1999; Smith 1996
14,248	Lithic scatter: scrapers, hammerstones, cores, flakes	No	No**	Rosen 1999; Smith 1996

Table 2 (cont.)
CULTURAL RESOURCES
WITHIN OVERALL LONESTAR RIDGE PROJECT AREA

Site Number (CA-SDI-#)	Site Description	Tested?	Significant?	Reference
14,250H†	Historic trash dump, including glass (purple, white, green), ironstone, metal	No	Undetermined	Smith 1996
Site 3†	Light lithic scatter: cores and flakes	No	No	Affinis 2004
Site 4	Light lithic scatter: cores and flakes	No	No	Affinis 2004
Site 6	Light lithic scatter: cores and flakes	No	No	Affinis 2004
Site 7	Light lithic scatter: cores and flakes	No	No	Affinis 2004
Site 8	Light lithic scatter: scrapers, cores and flakes	No	No	Affinis 2004
Site 10	Light lithic scatter: cores and flakes	No	No	Affinis 2004

†Site located in development area west of SR 125

*Sites were tested by Smith (1989), but report was never finalized, and the adequacy of the testing was not determined by City staff

**Sites were addressed in conjunction with SR 125 (Rosen 1999)

***Sites were addressed by Caltrans programmatically as not significant, per the *Management Plan for Otay Mesa Prehistoric Resources* (Rosen 2002)

At least 10 of the identified sites are in the western half of the Lonestar Ridge area and therefore outside of the BOS. Of the 18 sites that may be within or partially within the BOS, significance was undetermined for 2 of them (CA-SDI-11,221 and -14,210/H), and the remaining 16 were considered not significant. As such, consultation with a cultural resource professional would be initiated prior to any earthwork in the BOS.

4.2 NATIVE AMERICAN CONSULTATION

There is no indication that the project site was used by Native Americans for religious, ritual, or other special activities and, therefore, impacts to Native American burial sites are not expected. A consultation has not taken place but will be initiated by the Resource Manager following acceptance of the BOS.

4.3 HISTORICAL RESOURCES

The BOS does not support any known structures.

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5.0 MANAGEMENT ELEMENTS AND GOALS

5.1 BIOLOGICAL ELEMENT

5.1.1 Goals

The ultimate goal of this RMP is to detail the methods to preserve and maintain the long-term viability and the functions and values of native habitats within the preserve along with the listed and sensitive species they support. In addition, this RMP establishes the following goals with regard to biological resources:

Vegetation Communities: To preserve 82 acres of habitat within the BOS in perpetuity. Within the BOS, habitat will be monitored for: (1) quality, (2) exotic plant control measures will be implemented to prevent or reduce the spread of weeds, and (3) adaptive management will be conducted if necessary following fire or flood events.

Sensitive Species: To ensure the continued existence of all sensitive plant and animal species and/or to facilitate expansion of sensitive plant and animal species within the open space.

5.1.2 Tasks

The BOS will be visually inspected for changes during bi-monthly (every other month) maintenance and monitoring visits, and all observations will be documented. Any substantial changes will be monitored more closely to determine the necessity of additional measures. Such visits shall include the monitoring of the spread of exotic plant species and accumulation of trash/debris. Fences and signs associated BOS also will be inspected and any necessary repairs noted.

Baseline Biological Inventory

The quantity and quality of vegetation communities within the BOS will be documented during the first year of active management. This inventory will incorporate data from the biological technical report for the Lonestar Industrial Park project (HELIX 2008) with the findings of an initial baseline inventory field survey. These data will allow the Resource Manager to measure habitat changes caused by natural and human effects and to evaluate management efforts during subsequent years.

Upon implementation of this RMP, the Resource Manager will be provided digital files containing the existing vegetation and sensitive resources data, which will be updated following the baseline inventory field survey during the start-up (first year) phase of the RMP. The intent of this update is to document current conditions in the open space areas (including graphic and tabular depictions of habitat acreages), document all species observed (either directly or indirectly by sign such as scat, tracks, etc.) within each identified habitat type, and document the locations of any sensitive plant and animal species.

The baseline inventory update will be conducted during the first year of active management. To optimize the probability of detecting sensitive species reported or expected to occur within the BOS, this survey should be conducted between March and May, when the majority of sensitive plant and animal species are most detectable.

Update Biological Mapping

Vegetation and sensitive species mapping will be updated every 5 years following implementation of this RMP. A site visit should be conducted using updated aerial photography to determine vegetation communities present at the time of the survey. Any observed/detected sensitive species will be added to the biological resources maps of the BOS.

Sensitive Species Monitoring

Preservation of sensitive plant and animal populations within the BOS is one step in achieving the overall long-term conservation of these species. Monitoring of sensitive species is another step in achieving the overall long-term conservation of these species. Sensitive species monitoring will help the Resource Manager identify long- and short-term threats and recommend any necessary protective measures. Sensitive plant and animal monitoring will occur during bi-monthly management activities, and the locations of any observed/detected sensitive species will be documented and added to the biological resources maps. Adaptive management measures may be required to intervene when either natural or man-made disturbances or effects appear to be adversely influencing a sensitive species.

It is the responsibility of the Habitat Biologist to evaluate the status of preserved species within the preserve and to institute protective measures if any individual species becomes threatened. Sensitive species population monitoring will vary based on the target species. In each assessment, the Habitat Biologist will observe and document sensitive species locations and conditions. Monitoring/reporting efforts will include all sensitive species previously documented within the BOS.

Rare Plant Surveys

A rare plant survey will be conducted 2 of every 5 years throughout the BOS during the appropriate survey period for the 7 sensitive plant species observed within the BOS (Table 3). The Habitat Biologist will decide in which years the surveys will be conducted, with the goal of surveying during average or above-average rainfall years. A sub-sampling methodology will be used for monitoring populations of Otay tarplant and variegated dudleya, rather than direct counts. This methodology will only apply to the 62-acre parcel. Presence/absence surveys for San Diego button-celery may be conducted concurrently with fairy shrimp surveys, as the focus area will be vernal pools/basins. Presence/absence surveys will be conducted for the remaining sensitive species observed, with specific attention given to any factors that may be negatively affecting those species (i.e., vandalism, mortality, etc.). In addition, an annual visual assessment of each population of sensitive species will be conducted during a regular maintenance event and will be compared to results from previous years in order to help track overall population trends.

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Table 3
BLOOMING PERIODS*/SURVEY SEASON
FOR SENSITIVE PLANT SPECIES WITHIN THE BOS

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Otay tarplant (<i>Deinandra conjugens</i>)					X	X						
Variegated dudleya (<i>Dudleya variegata</i>)				X	X	X						
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)				X	X	X						
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)				X	X	X	X	X	X	X	X	
Graceful tarplant (<i>Holocarpha virgata</i> ssp. <i>elongata</i>)					X	X	X	X	X	X	X	
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	Survey season is year-round, blooms not necessary											

*Blooming periods are from CNPS 2008

The monitoring methodology for Otay tarplant and variegated dudleya within the 62-acre parcel will consist of establishing 50-meter (m) line transects within the population boundaries of each species. Two (2) transects will be established in the variegated dudleya population numbering 7,000+ individuals, 4 transects will be established in the variegated dudleya population numbering 60,000+ individuals, and 4 transects will be established in the Otay tarplant population numbering 330,000+ individuals. Along each 50-m transect, 1-m² quadrats will be placed every 5 m, for a total of 10 quadrats per transect. A direct count of all sensitive plant species occurring within each quadrat will be recorded, as well as a visual estimate of cover by every species present in the quadrat. The visual cover estimate by species will be according to the categories shown in Table 4.

Monitoring of variegated dudleya in the 20-acre parcel will include establishing the baseline extent of the population boundaries using a hand-held GPS unit and then determining presence/absence during surveys conducted 2 of every 5 years as well as an annual visual assessment of the population compared to previous years.

Table 4
CATEGORIES FOR VISUAL COVER ESTIMATES

Category	1	2	3	4	5	6
Percent Cover	0-5	6-25	26-50	51-75	76-95	96-100

Quino Checkerspot Butterfly Surveys

A 1-day survey for Quino checkerspot butterfly will be conducted 2 out of every 5 years within appropriate habitat in the BOS. Each survey will occur during the peak of the flight season (as determined through coordination with the USFWS) and will concentrate on areas supporting QCB host plants and nectaring resources. The Habitat Biologist will decide in which years the surveys will be conducted, with the goal of surveying during average or above-average rainfall years. The surveys will only be conducted during protocol-level temperature, cloud-cover, and wind conditions. Any QCB observed incidentally during other surveys will also be documented.

Burrowing Owl Surveys

A 1-day assessment/survey for burrowing owl will be conducted every year during the owl breeding season (February 1–August 31) within appropriate habitat in the BOS. If possible, the survey should be conducted during the peak of the breeding season (April 15–July 15). This survey will document all burrowing owl sightings, occupied burrows, young of the year, and burrows with owl sign observed on site, as well as presence/absence of ground squirrels. The surveys may be conducted concurrently with surveys for other sensitive species.

Fairy Shrimp Surveys

Presence/absence surveys for San Diego and Riverside fairy shrimp will be conducted every 2 of 5 years during the wet season within appropriate habitat in the BOS. The Habitat Biologist will decide in which years the surveys will be conducted. Presence/absence surveys for San Diego button-celery may be conducted concurrently with fairy shrimp surveys.

Exotic Plant Control

The Resource Manager will coordinate with land developers and owners adjacent to the BOS to provide information regarding exotic plant species and to increase the efficiency of exotic plant control programs. To accommodate changing growth patterns, weeding will occur as needed at the discretion of the Resource Manager. Weeding will occur by manual or mechanical means; no weed whips or chemical herbicides may be used unless specifically determined to be necessary by the Resource Manager. The Resource Manager is responsible for removal of species rated as High by the California Invasive Plant Council (Cal-IPC) within 2 weeks after discovery. Special attention will be paid to eradicating fennel (*Foeniculum vulgare*), which can form dense local populations and drastically alter the composition and structure of many plant communities (Cal-IPC 2006). Non-native grasses will not be prioritized for removal unless it is determined by the Resource Manager that they are significantly impacting a sensitive resource. General weeding events will occur twice annually: in January/February and April/May.

If the use of herbicide is deemed necessary, application should be minimal, and may only occur in compliance with all federal and state laws. Use of chemical herbicides should be determined in coordination with the County Department of Environmental Health. All herbicide use will be applied by backpack sprayers or stump painting directly on target weeds and will involve short duration, biodegradable chemicals.

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Predator Control

Exotic predators, such as Argentine ants (*Linepithema humile*), have potential to occur on site. The Argentine ant displaces native ants that comprise the principal food source for horned lizards. A moderate tolerance for pest species will be permitted, but if the Resource Manager determines that pest eradication measures (pesticide application or trapping) are required, the USFWS and/or CDFG will be contacted to determine the need and appropriate methods, including potentially hiring a licensed pest control advisor. Exotic species control/eradication programs should be implemented at the appropriate time of year depending on the pest species and field conditions, and should be coordinated with efforts on adjacent properties.

Fire Management

Fire is an important element in the ecology of southern California but can also present potential hazards to habitat within the BOS. Following fire events, vegetation within the BOS will be allowed to recover naturally; however, seeding and/or planting of container stock may be required at the discretion of the Resource Manager. Special attention to weed establishment following fire will be assessed by the Biologist.

5.1.3 Management Constraints

This RMP follows the regulatory and permitting requirements of the USFWS, CDFG, and County. Although it anticipates measures for most foreseeable contingencies, several external constraints remain. For example, illegal trespassing could negatively impact sensitive animal species, and environmental factors, such as prolonged drought, could have detrimental effects on sensitive plant populations within the BOS. Other management constraints include potential noise effects from SR 125.

5.1.4 Adaptive Management

If the findings of regularly scheduled habitat or species monitoring reveal that the goals of this RMP are not being met (i.e., loss of 1 or more sensitive species or habitats), an amendment to the plan may be necessary. Any changes to this plan will require approval by the appropriate agency (USFWS, CDFG, and/or the County).

5.2 CULTURAL RESOURCES ELEMENT

As stated above in Section 4.1, several cultural resource sites have been identified within the larger 273-acre Lonestar Ridge site, some of which may occur within the BOS.

5.2.1 Goals

All cultural resource sites located within the BOS must be preserved and maintained as they are discovered. Monitoring and general stewardship measures will be implemented to protect these resources.

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5.2.2 Tasks

Monitoring

The cultural sites preserved within the BOS will be monitored during regular site visits to ensure that no natural or human-induced impacts have occurred.

Stewardship

Avoidance is generally the best preservation method for the cultural resources within the BOS; therefore, no signage will be installed drawing attention to any cultural sites within the preserve. Given the low significance of the cultural resources on the site, fencing is not anticipated to be necessary. The resource manager will also be responsible for removing any trash or debris that is found on or around the cultural sites.

5.2.3 Management Constraints

No substantial management constraints are expected that may affect preservation of cultural resources within the BOS.

5.3 OPERATIONS, MAINTENANCE, AND ADMINISTRATION ELEMENT

5.3.1 Goals

Ongoing maintenance and administration, which will be the responsibility of the Resource Manager, will be conducted to ensure no loss of resource quality within the BOS.

5.3.2 Tasks

The general operations, maintenance, and administrative tasks to be conducted by the Resource Manager will include the following tasks.

Annual Monitoring Reports

A letter report will be submitted to the USFWS, CDFG, and County that will summarize the overall condition of vegetation communities and sensitive species in the BOS, propose management tasks for the following year, and discuss results of management activities proposed in the previous report. Submitted annually by the end of January, this letter report will compare the most recent data with those collected in previous years, evaluate sensitive species status and local wildlife corridor use, and outline appropriate remedial measures. Fees for County review will also be included with submittal of the annual report.

The results of all updated vegetation mapping (every fifth year), sensitive plant surveys (2 of every 5 years), and sensitive animal surveys (varies by species) should be included in the appropriate annual letter reports.

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Management Plan Review

This RMP will be reviewed every 5 years to determine the need for revisions or updates. Due to changing conditions on site, it may be necessary to revise the tasks outlined in this plan to ensure continued success of the stated goals.

Access Control

To prevent human-induced degradation of the BOS due to illegal occupancy, trespassing (off-highway vehicle activity), removal of resources, or dumping of trash or debris, the Resource Manager will restrict access to the BOS. Permanent signage will be posted every 500 feet along the southern boundary of the 62-acre parcel and at locations of any unauthorized trails entering the BOS and be maintained by the Resource Manager. All signs will be corrosion-resistant (e.g., constructed of steel), measure at minimum 6 by 9 inches in size, be posted on a metal post at least 3 feet above ground level, and provide notice in both English and Spanish that the area is an ecological preserve with trespassing prohibited. The signs will state the following:

Sensitive Environmental Resources

Disturbance Beyond this Point is Restricted by Easement

Contact Information:

County of San Diego Department of Planning and Land Use
Ref. SPA04-006/TM5405RPL

Fencing

Fencing will be installed along the southern boundary of the 62-acre parcel. Fencing will not be installed in other locations since remaining boundaries of the parcels are contiguous to other open space lands.

Additional fencing needs will be identified by the Resource Manager and a fencing plan will be submitted to the County for review prior to installation. Such fencing may be required for:

- Prevention of unauthorized vehicle access;
- Protection of open space boundaries (e.g., along utility easements);
- Prevention of trail formation within the preserve; and/or

Illegal Occupancy

Illegal occupancy is common in open space areas, although this is not anticipated to be an issue on this site because of the open nature of the habitat. The Resource Manager will survey the BOS for evidence of illegal access concurrently with other site management activities and file a report with the Sheriff and the County DPLU, if necessary.

Removal of Resources

Removal of any plants, animals, rocks, minerals, or other natural resources from the preserve is prohibited. The Resource Manager will maintain a log of illegal collecting and may report

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individuals caught removing natural resources from the BOS to the USFWS, CDFG, County, and/or Sheriff's Office. The Resource Manager may allow and supervise seed collection and plant cuttings as part of revegetation efforts within the preserve and/or in nearby areas. Any such collected plant materials should be limited to that necessary to ensure successful revegetation while not adversely affecting local plant populations.

Maintain Confidentiality of Archaeological Site Locations

Successful management of resources within the BOS will require maintenance of the cultural resource sites. Due to the sensitive nature of these cultural resources, the Resource Manager will maintain records of their locations and ensure that they remain confidential.

Trash Removal and Vandalism Repair

The Resource Manager will also conduct general trash removal within the BOS during regular management site visits. Additionally, damage caused by vandalism will be repaired. Trash removal and vandalism repair will occur as needed during regular bi-monthly (every other month) site visits.

Hazardous Materials Monitoring

The release of hazardous materials such as fuels, oil, vegetation clippings, trash, and landscaping related chemicals (e.g., pesticides and herbicides) has potential to affect the BOS negatively. Although no specific survey will be conducted, if such hazardous materials are observed within the BOS during regular bi-monthly (every other month) site visits, remedial measures to remove the material will occur.

5.4 PUBLIC USE ELEMENT

Compatible public uses of the site include scientific uses. The BOS will not have public trails or other facilities. No motorized recreational vehicles, fishing, hunting, or unauthorized collection will be allowed within the BOS. Existing trails will be blocked and/or demarcated with signage to prevent continued use. No additional trails will be installed. Because no trails will be allowed within the BOS, no informative services will be provided.

5.5 FIRE MANAGEMENT ELEMENT

A controlled burn of the site will be considered as part of the weed eradication strategy intended to improve habitat for burrowing owl and QCB. No other fire management activities (clearing, thinning, mowing, disking, blading, etc.) are planned within the BOS. All such measures to reduce wildfire risk are to occur entirely outside of the BOS.

6.0 RESOURCE MANAGEMENT PLAN SUMMARY AND BUDGET

6.1 OPERATIONS AND BUDGET SUMMARY

Table 5 provides a summary of all management tasks described above and the frequency of each task. The budget for these tasks will be provided in a PAR as an appendix to the final RMP after a Resource Manager is identified.

6.2 EXISTING STAFF AND ADDITIONAL PERSONNEL NEEDS SUMMARY

Staff and personnel needs will be provided in the final RMP after a Resource Manager is identified.

Table 5 MANAGEMENT TASKS	
TASK	FREQUENCY
Biological Resources Tasks	
Baseline Inventory	One time
Update Biological Mapping	Every 5 years
Sensitive Plant Species Monitoring	2 out of every 5 years
QCB Surveys	2 out of every 5 years
Burrowing Owl Surveys	Every year
Fairy Shrimp Surveys	2 out of every 5 years
Exotic Plant Control	As needed; anticipated 2 times per year
Predator Control	As needed
Fire Management	As needed
Cultural Resources Tasks	
Monitoring	Bi-Monthly (every other month)
Stewardship	Bi-Monthly (every other month)
Operations, Maintenance, and Administration Tasks	
Monitoring Reports	Annually
Management Plan Review	Every 5 years
Access Control	Bi-Monthly (every other month)
Maintain Confidentiality of Cultural Site Locations	Ongoing
Trash Removal and Vandalism Repair	Bi-Monthly (every other month)
Hazardous Materials Monitoring	Bi-Monthly (every other month)

7.0 LIST OF PREPARERS

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APPENDIX A

PLANT SPECIES OBSERVED

Appendix A
PLANT SPECIES OBSERVED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT**</u>
<i>Achillea millefolium</i> *	common yarrow	NNG
<i>Achnatherum diegoensis</i> †	San Diego County needlegrass	DCSS
<i>Allium</i> sp.	wild onion	NNG
<i>Amaranthus albus</i>	white tumbleweed	NNG
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher's fiddleneck	NNG
<i>Anagallis arvensis</i> *	scarlet pimpernel	NNG
<i>Artemisia californica</i>	California sagebrush	DCSS, NNG
<i>Astragalus trichopodus</i> var. <i>lonchus</i>	ocean locoweed	DCSS
<i>Atriplex semibaccata</i> *	Australian saltbush	NNG
<i>Avena barbata</i> *	wild oat	DCSS, NNG
<i>Avena fatua</i> *	wild oat	DCSS, NNG
<i>Beta vulgaris</i> *	sea beet	NNG
<i>Bloomeria crocea</i>	golden star	NNG, DCSS
<i>Brachypodium distachyon</i> *	purple falsebrome	NNG
<i>Brassica</i> sp.*	mustard	NNG
<i>Brassica nigra</i> *	black mustard	NNG
<i>Brodiaea jolonensis</i>	mesa brodiaea	NNG
<i>Bromus diandrus</i> *	common ripgut grass	NNG
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail chess	NNG
<i>Calochortus splendens</i>	lilac mariposa lily	NNG
<i>Calystegia macrostegia</i>	morning glory	DCSS, NNG
<i>Castilleja exserta</i>	purple owl's clover	NNG
<i>Centaurea melitensis</i> *	star thistle	NNG
<i>Chenopodium murale</i> *	nettle-leaf goosefoot	NNG
<i>Chlorogalum parviflorum</i>	soap plant	NNG
<i>Chlorogalum pomeridianum</i>	soap plant	NNG
<i>Convolvulus arvensis</i> *	bindweed	NNG
<i>Cotula coronopifolia</i>	African brass-buttons	Pond
<i>Crassula connata</i>	dwarf stone-crop	DCSS
<i>Cressa truxillensis</i>	alkali weed	NNG
<i>Cryptantha</i> sp.	cryptantha	NNG
<i>Cynodon dactylon</i> *	Bermuda grass	NNG
<i>Delphinium</i> sp.	larkspur	DCSS
<i>Deinandra conjugens</i> †	Otay tarplant	DCSS, NNG
<i>Deinandra fasciculata</i>	fascicled tarplant	NNG
<i>Dichelostemma capitatum</i>	blue dicks	NNG
<i>Dimorphotheca aurantiaca</i> *	African daisy	NNG
<i>Dodecatheon clevelandii</i> ssp. <i>clevelandii</i>	Cleveland's shooting star	NNG
<i>Dudleya edulis</i>	ladies-fingers	DCSS
<i>Dudleya variegata</i> †	variegated dudleya	DCSS, NNG
<i>Eleocharis macrostachya</i>	pale spike-rush	VP
<i>Encelia californica</i>	California encelia	DCSS
<i>Eremocarpus setigerus</i>	dove weed	NNG

Appendix A (cont.)
PLANT SPECIES OBSERVED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT**</u>
<i>Eriogonum fasciculatum</i>	California buckwheat	DCSS
<i>Eriophyllum confertiflorum</i>	golden yarrow	DCSS
<i>Erodium cicutarium</i> *	red-stem filaree	NNG
<i>Erodium moschatum</i> *	green-stem filaree	NNG
<i>Eryngium aristulatum</i> ssp. <i>parishii</i> †	San Diego button-celery	VP
<i>Eucalyptus</i> sp.*	eucalyptus	NNG, EW
<i>Ferocactus viridescens</i> †	San Diego barrel cactus	DCSS, NNG
<i>Fritillaria biflora</i>	chocolate lily	DCSS
<i>Foeniculum vulgare</i> *	fennel	NNG
<i>Galium</i> sp.	bedstraw	DCSS
<i>Gaura sinuata</i>	wavy leaved gaura	NNG
<i>Grindelia robusta</i>	gum plant	NNG
<i>Hedypnois cretica</i> *	Crete hedypnois	NNG
<i>Heteromeles arbutifolia</i>	toyon	DCSS, NNG
<i>Hirschfeldia incana</i>	perennial mustard	NNG
<i>Holocarpha virgata</i> ssp. <i>elongata</i> †	graceful tarplant	NNG
<i>Hordeum marinum</i> *	Mediterranean barley	NNG
<i>Hypochaeris glabra</i> *	smooth cat's-ear	NNG
<i>Isocoma menziesii</i>	goldenbush	NNG
<i>Isocoma menziesii</i> var. <i>decumbens</i> †	decumbant goldenbush	DCSS
<i>Isomeris arborea</i>	bladderpod	DCSS
<i>Lactuca serriola</i> *	wild lettuce	NNG
<i>Lamarckia aurea</i> *	goldentop	NNG
<i>Lasthenia californica</i>	goldenfields	NNG, DCSS
<i>Lepidium lasiocarpum</i>	sand peppergrass	DCSS, NNG
<i>Lessingia filaginifolia</i>	sand-aster	NNG
<i>Lolium multiflorum</i> *	ryegrass	NNG
<i>Lotus scoparius</i>	deerweed	DCSS
<i>Malvella leprosa</i>	alkali-mallow	NNG
<i>Marrubium vulgare</i> *	horehound	NNG
<i>Medicago polymorpha</i> *	bur-clover	NNG
<i>Melilotus indica</i> *	Indian sweet clover	NNG
<i>Mirabilis californica</i>	wishbone plant	DCSS
<i>Mesembryanthemum nodiflorum</i>	slender-leaved iceplant	NNG
<i>Muilla clevelandii</i> †	San Diego goldenstar	DCSS
<i>Nassella lepida</i>	foothill needlegrass	NNG
<i>Nassella pulchra</i>	purple needlegrass	NNG
<i>Olea europae</i> *	olive	NNG
<i>Opuntia littoralis</i>	prickly pear cactus	DCSS, NNG
<i>Opuntia prolifera</i>	cholla	DCSS
<i>Oxalis</i> sp.*	sorrel	NNG
<i>Phalaris</i> sp.*	canary grass	NNG

Appendix A (cont.)
PLANT SPECIES OBSERVED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT**</u>
<i>Picris echoides</i> *	bristly ox-tongue	NNG
<i>Plagiobothrys</i> sp.	popcorn flower	VP
<i>Plantago erecta</i>	dwarf plantain	NNG
<i>Pogogyne nudiuscula</i> †	Otay mesa mint	VP
<i>Polygonum arenastrum</i> *	knotweed	NNG
<i>Ranunculus californicus</i>	California buttercup	NNG
<i>Rhus integrifolia</i>	lemonade berry	DCSS, NNG
<i>Rumex crispus</i> *	curly dock	NNG
<i>Rumex maritimus</i>	golden dock	NNG
<i>Salsola tragus</i> *	Russian thistle	DCSS, NNG
<i>Sanicula arguta</i>	sharp-tooth sanicle	NNG
<i>Sambucus mexicana</i>	blue elderberry	DCSS
<i>Selaginella cinerascens</i>	ashy spike-moss	DCSS, NNG
<i>Sidalcea malvaeflora</i>	checker-bloom	NNG
<i>Sisyrinchium bellum</i>	blue-eyed grass	DCSS, NNG
<i>Sonchus asper</i> *	prickly sow thistle	NNG
<i>Sonchus oleraceus</i> *	common sow thistle	NNG
<i>Stachys ajugoides</i> var. <i>rigida</i>	hedge-nettle	Pond
<i>Tamarix</i> sp.	tamarisk	Pond
<i>Viguiera laciniata</i> †	San Diego sunflower	DCSS
<i>Zigadenus fremontii</i>	star lily	NNG

§Species list is for the entire 273-acre Lonestar Ridge site, which encompasses the 82-acre biological open space (BOS) proposed as partial mitigation for impacts associated with Otay Crossings Commerce Park.

†Denotes sensitive species

*Denotes non-native species

**Habitat Acronyms: DCSS=Diegan coastal sage scrub, EW=Eucalyptus woodland, NNG=Non-native grassland, VP=Vernal pool. Eucalyptus woodland does not occur within the BOS.

APPENDIX B

SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

Appendix B
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL/HABITAT/RATIONALE
San Diego thornmint (<i>Acanthomintha ilicifolia</i>)	--/SE CNPS List 1B.1 MSCP NE	Moderate. Occurs on clay soils in chaparral, coastal sage scrub, grasslands, and vernal pools.
California adolphia (<i>Adolphia californica</i>)	--/-- CNPS List 2.1	Low. Found in habitats with clay soils. Would have been observed if present.
Shaw's agave (<i>Agave shawii</i>)	--/-- CNPS List 2.1 MSCP NE	Moderate. Would have been detected if present in coastal sage scrub.
San Diego bur-sage (<i>Ambrosia chenopodiifolia</i>)	--/-- CNPS List 2.1	Low. Found on dry sunny hillsides within maritime succulent scrub and coastal sage scrub. Would have been observed if present.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/-- CNPS List 1B.1 MSCP NE	Low. Very limited range. Generally associated with upper river terraces.
Dean's milk-vetch (<i>Astragalus deanei</i>)	--/-- CNPS List 1B.1 CA Endemic	Low. Chaparral, coastal sage scrub, and riparian scrub. Would have been detected if present.
Golden-spined cereus (<i>Bergerocactus emoryi</i>)	--/-- CNPS List 2.2	Low. Habitat in sandy soils and bluffs associated with coastal sage scrub and maritime succulent scrub. Would have been found if present.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/-- CNPS List 1B.1 MSCP Covered	Moderate. Found in chaparral, meadows and seeps, grassland, and vernal pools. Would have been observed if present.
Orcutt's bird-beak (<i>Cordylanthus orcuttianus</i>)	--/-- CNPS List 2.1 MSCP Covered	Moderate. Found in coastal sage scrub.
Western dichondra (<i>Dichondra occidentalis</i>)	--/-- CNPS List 4.2	Moderate. Found in sandy banks within coastal sage scrub, chaparral, or southern oak woodland. Often proliferates on recently burned slopes.
Orcutt's dudleya (<i>Dudleya attenuata</i> ssp. <i>orcuttii</i>)	--/-- CNPS List 2.1	Low. Occurs in coastal bluff scrub, chaparral, and coastal sage scrub. Known only from Border Field State Park.
Palmer's goldenbrush (<i>Ericameria palmeri</i> ssp. <i>palmeri</i>)	--/-- CNPS List 2.2 MSCP Covered	Low. Found in coastal sage scrub. Would have been found if present.
Palmer's grapplinghook (<i>Harpagonella palmeri</i>)	FSC/-- CNPS List 4.2	Moderate. Found in clay soils in chaparral, coastal sage scrub, and grasslands. Would have been detected if present in grasslands.
San Diego marsh elder (<i>Iva hayesiana</i>)	--/-- CNPS List 2.2	Low. Appropriate habitat does not occur on site. Occurs immediately off site in Johnson Canyon.
Gander's pitcher sage (<i>Lepechinia ganderi</i>)	--/-- CNPS List 1B.3 MSCP NE	Low. Found in chaparral, coastal sage scrub, and grasslands on gabbroic or metavolcanic soils. Generally found farther inland.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL/HABITAT/RATIONALE
San Diego goldenstar (<i>Muilla clevelandii</i>)	--/-- CNPS List 1B.1 MSCP Covered	Moderate. Would likely have been observed if present. Observed off site east of Johnson Canyon.
Little mousetail (<i>Myosurus minimus</i> ssp. <i>apus</i>)	--/-- CNPS List 3.1	Moderate. Habitat in vernal pools and alkaline marshes. Would have been detected if present.
Spreading navarretia (<i>Navarretia fossalis</i>)	FT/-- CNPS List 1B.1 MSCP Covered	High. Habitat in vernal pools. Previously observed by Dudek (1992) on site in 1 vernal pool.
Snake cholla (<i>Opuntia californica</i> var. <i>californica</i>)	--/-- CNPS List 1B.1 MSCP NE	Low. Found in chaparral and coastal sage scrub. Would have been detected if present.
California Orcutt grass (<i>Orcuttia californica</i>)	FE/SE CNPS List 1B.1 MSCP NE	Low. Found in vernal pools but would have been detected if present on site.
Short-lobed broom-rape (<i>Orobancha parishii</i> ssp. <i>brachyloba</i>)	--/-- CNPS List 4.2	Moderate. Found in sandy soils, coastal bluff scrub, coastal dunes, and coastal sage scrub.
Otay mesa mint (<i>Pogogyne nudiuscula</i>)	FE/SE CNPS List 1B.1	Moderate. Has not been observed in vernal pools in the BOS, but approximately 17 individuals were observed in a single vernal pool in the central portion of the 273-acre Lonestar site. Previous surveys by Dudek (1992) found this species scattered in 16 vernal pools east of the SR 125 alignment.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/-- CNPS List 1B.1	Low. Found in chaparral and coastal sage scrub. Would have been detected if present.
Munz's sage (<i>Salvia munzii</i>)	--/CEQA CNPS List 2.2	Low. Chaparral and coastal sage scrub. Would have been detected if present.
Parry's tetracoccus (<i>Tetracoccus dioicus</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low. Found in chaparral and coastal sage scrub. Would have been detected if present.
San Diego sunflower (<i>Viguiera laciniata</i>)	--/-- CNPS List 4.2	Moderate to high. Found in coastal sage scrub and has been observed on adjacent sites.

*Refer to Appendix E for a listing and explanation of status and sensitivity codes

APPENDIX C

ANIMAL SPECIES OBSERVED OR DETECTED

Appendix C
ANIMAL SPECIES OBSERVED OR DETECTED – LONESTAR RIDGES

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT*</u>
------------------------	--------------------	-----------------

INVERTEBRATES

Crustaceans

Branchinectidae – Fairy Shrimp

Branchinecta sandiegonensis†

San Diego fairy shrimp

VP

Streptocephalus woottoni††

Riverside fairy shrimp

VP

Insects

Lepidoptera – Butterflies and Moths

Anthocharis sara

Sara orangetip

NNG

Apodemia mormo virgulti

Behr's metalmark

NNG, DCSS

Brephidium exilis

pygmy blue

NNG, DCSS

Coenonympha californica

California ringlet

NNG

Calephelis wrightii

Wright's metalmark

NNG

Danaus gilippus

queen

NNG

Erynnis funeralis

funeral duskywing

NNG

Euphydryas editha quino†

Quino checkerspot butterfly

NNG, DCSS

Hylephila phyleus

fiery skipper

NNG

Icaricia acmon

acmon blue

NNG, DCSS

Leptotes marina

marine blue

NNG

Nymphalis antiopa

mourning cloak

NNG

Papilio eurymedon

pale swallowtail

NNG

Papilio glaucas

tiger swallowtail

NNG

Papilio zelicaon

anise swallowtail

NNG

Junonia coenia

buckeye

NNG

Pieris rapae

cabbage white

NNG

Pontia protodice

common white

NNG

Pyrgus communis

checkered skipper

NNG

Speyeria callippie comstocki

Comstock's fritillary

NNG

Vanessa annabella

west coast lady

NNG, DCSS

Vanessa atalanta

red admiral

NNG

Vanessa cardui

painted lady

NNG, DCSS

Arachnids

Theraphosidae – Tarantulas

Aphonopelma sp.

tarantula

NNG

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT*</u>
VERTEBRATES		
<u>Amphibians</u>		
Scaphiopodidae (spadefoot toads) <i>Spea hammondi</i> ††	spadefoot toad	VP (dry)
<u>Reptiles</u>		
Phrynosomatidae – Earless, Spiny, Tree, Side-blotched, and Horned Lizards <i>Sceloporus occidentalis</i>	western fence lizard	DCSS
Scincidae – Skinks <i>Eumeces skiltonianus interparietalis</i> †	Coronado skink	DCSS
Viperidae – Pit Vipers <i>Crotalus viridis</i>	western rattlesnake	DCSS
<u>Birds</u>		
Accipitridae – Hawks, Kites, and Eagles <i>Accipiter cooperii</i> †† <i>Buteo jamaicensis</i> <i>Circus cyaneus</i> †† <i>Elanus leucurus</i> ††	Cooper's hawk red-tailed hawk northern harrier white-tailed kite	NNG NNG, DCSS NNG, DCSS NNG
Aegithalidae – Bushtit <i>Psaltiriparus minimus</i>	bushtit	DCSS
Alaudidae – Larks <i>Eremophila alpestris actia</i> †	California horned lark	NNG
Cardinalidae – Cardinals <i>Guiraca caerulea</i>	blue grosbeak	DCSS
Charadriidae – Plovers <i>Charadrius vociferous</i>	killdeer	NNG
Columbidae – Pigeons and Doves <i>Zenaida macroura</i>	mourning dove	NNG

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT*</u>
VERTEBRATES (cont.)		
<u>Birds</u> (cont.)		
Corvidae – Jays, Magpies, and Crows		
<i>Aphelocoma californica</i>	western scrub jay	DCSS
<i>Corvus brachyrhynchos</i>	American crow	DCSS
<i>Corvus corax</i>	common raven	NNG, DCSS
Emberizidae – Sparrows, Longspurs, and Emberiza Buntings		
<i>Aimophila ruficeps canescens</i> ††	southern California rufous-crowned sparrow	DCSS
<i>Ammodramus savannarum</i> ††	grasshopper sparrow	NNG
<i>Melospiza melodia</i>	song sparrow	DCSS
<i>Passerculus sandwichensis</i>	savannah sparrow	DCSS
<i>Pipilo crissalis</i>	California towhee	DCSS
<i>Pipilo maculatus</i>	spotted towhee	DCSS
Unidentified	sparrow	NNG
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	DCSS
Parulidae – Wood-warblers		
<i>Dendrocia coronata</i>	yellow-rumped warbler	
Falconidae – Caracaras and Falcons		
<i>Falco sparverius</i>	American kestrel	DCSS
<i>Falco mexicanus</i> ††	prairie falcon	NNG
Fringillidae – Finches		
<i>Carpodacus mexicanus</i>	house finch	DCSS
<i>Carduelis psaltria</i>	lesser goldfinch	NNG, DCSS
Hirundinidae – Swallows		
<i>Hirundo pyrrhonota</i>	cliff swallow	DCSS
unidentified	swallow	DCSS
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	NNG
Icteridae – Blackbirds		
<i>Euphagus cyanocephalus</i>	Brewer's blackbird	NNG
<i>Sturnella neglecta</i>	western meadowlark	NNG
Laniidae – Shrikes		
<i>Lanius ludovicianus</i> ††	loggerhead shrike	NNG

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT*</u>
VERTEBRATES (cont.)		
<u>Birds</u> (cont.)		
Laridae – Gulls, Terns, and Skimmers <i>Larus</i> sp.	gull	NNG, DCSS
Mimidae – Mockingbirds and Thrashers <i>Mimus polyglottos</i>	northern mockingbird	NNG
Picidae – Woodpeckers, Flickers, and Sapsuckers <i>Colaptes auratus</i>	northern flicker	DCSS
Scolopacidae – Sandpipers, and Phalaropes <i>Numenius americanus</i> ††	long-billed curlew	NNG
Strigidae – Typical Owls <i>Athene cunicularia</i> †	burrowing owl	NNG
Sturnidae – Starlings <i>Sturnus vulgaris</i>	European starling	NNG
Sylviidae – Old World Warblers, and Gnatcatchers <i>Poliophtila californica californica</i> ††	coastal California gnatcatcher	DCSS
Timaliidae – Babblers <i>Chamaea fasciata</i>	wrentit	DCSS
Trochilidae – Hummingbirds <i>Calypte anna</i> <i>Calypte costae</i>	Anna's hummingbird Costa's hummingbird	DCSS NNG
Troglodytidae – Wrens <i>Thryomanes bewickii</i> <i>Troglodytes aedon</i>	Bewick's wren house wren	DCSS DCSS
Turdidae – Thrushes <i>Sialia currucoides</i>	mountain bluebird	DCSS

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – LONESTAR RIDGE§

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT*</u>
VERTEBRATES (cont.)		
<u>Birds</u> (cont.)		
Tyrannidae – Tyrant Flycatchers, Phoebe, and Kingbirds		
<i>Sayornis nigricans</i>	black phoebe	DCSS
<i>Sayornis saya</i>	Say's phoebe	DCSS
<i>Tyrannus</i> sp.	kingbird	DCSS
<i>Tyrannus vociferans</i>	Cassin's kingbird	DCSS
<u>Mammals</u>		
Canidae – Foxes, Wolves, and Relatives		
<i>Canis latrans</i>	coyote (scat)	NNG, DCSS
Felidae – Cats		
<i>Lynx rufus</i>	bobcat (scat)	NNG, DCSS
Geomyidae – Pocket Gophers		
<i>Thomomys bottae</i>	Botta's pocket gopher (burrows)	NNG
Leporidae – Rabbits and, Hares		
<i>Lepus californicus bennettii</i> ††	San Diego black-tailed jackrabbit (scat)	DCSS
<i>Sylvilagus audubonii</i>	desert cottontail (scat, observations)	DCSS
Muridae – Rats, Mice, and Voles		
<i>Neotoma</i> sp.	woodrat (scat)	DCSS
Procyonidae – Raccoons		
<i>Procyon lotor</i>	common raccoon (tracks)	DCSS

§Species list is for the entire 273-acre Lonestar Ridge site, which encompasses the 82-acre biological open space (BOS) proposed as partial mitigation for impacts associated with Olay Crossings Commerce Park.

†Denotes sensitive species observed within the BOS

††Denotes sensitive species observed outside of the BOS

*Habitat Acronyms: DCSS=Diegan coastal sage scrub, NNG=Non-native grassland, VP=Vernal pool.

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Appendix D
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL/HABITAT
INVERTEBRATES		
Hermes copper (<i>Lycaena hermes</i>)	--/--	Low. Host plant spiny redberry (<i>Rhamnus crocea</i>) does not occur on site.
Thorne's hairstreak butterfly (<i>Mitoura thornei</i>)	--/-- MSCP Rare, NE	Low. Host plant Tecate cypress (<i>Cupressus forbesii</i>) is not present on site.
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE/-- MSCP NE	Moderate. Has been observed in pools within project vicinity although not within the BOS. Pools within BOS may not be deep enough to support this species.
VERTEBRATES		
Amphibian		
Spadefoot toad (<i>Spea hammondi</i>)	--/SSC	High. Observed in dry vernal pools during 2006 surveys on larger Lonestar Ridge property.
Reptiles		
Orange-throated whiptail (<i>Cnemidophorus hyperthrus beldingi</i>)	--/SSC MSCP Covered	High in shrub habitats on site.
Coastal western whiptail (<i>Cnemidophorus tigris stejnegeri</i>)	--/SSC	High in shrub habitats.
Red-diamond rattlesnake (<i>Crotalus exsul</i>)	--/SSC	Moderate in coastal sage scrub and rocky areas.
San Diego ringneck snake (<i>Diadophis puntatus similis</i>)	--/--	Moderate in grasslands or coastal sage scrub.
Coronado skink (<i>Eumeces skiltonianus interparietalis</i>)	--/SSC	High. Observed in sage scrub in off-site portions of Lonestar Ridge.
Coastal rosy boa (<i>Lichanura trivirgata roseofusca</i>)	--/--	Moderate near rocky areas in coastal sage scrub.
Coast horned lizard (<i>Phrynosoma coronatum blainvillei</i>)	--/SSC MSCP Covered	High in coastal sage scrub. Main food source is harvester ant, which was not seen but probably is present. Observed by Dudek (1992).
Two-striped garter snake (<i>Thamnophis hammondi</i>)	--/SSC	Moderate near vernal pool habitats.
Birds		
Cooper's hawk (<i>Accipiter cooperii</i>)	--/SSC	Low. Appropriate habitat does not occur on site. Observed off site in eucalyptus woodland.
Tricolor blackbird (<i>Agelaius tricolor</i>)	BCC/SSC MSCP Covered	Moderate as a winter visitor and as a migrant. Occurs mostly in grasslands and wetlands. Known from the Otay River.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL/HABITAT
VERTEBRATES (cont.)		
Birds (cont.)		
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	--/WL MSCP Covered	Moderate to high in coastal sage scrub. Species has been observed in larger Lonestar Ridge property, outside of the BOS.
Bell's sage sparrow (<i>Amphispiza belli belli</i>)	BCC/SSC	Moderate in sage scrub and chaparral communities.
Golden eagle (<i>Aquila chrysaetos</i>)	BCC/SSC Fully Protected MSCP Covered	High to forage in open or shrubby habitats. Tends to require places of solitude and is usually found at a distance from human habitation.
Ferruginous hawk (<i>Buteo regalis</i>)	BCC/SSC MSCP Covered	High to forage in grasslands and agricultural fields.
Coastal cactus wren (<i>Campylorhynchus brunneicapillus coeusi</i>)	BCC/SSC MSCP Covered	Low. Appropriate habitat does not occur on site. Observed off site in Johnson Canyon.
Turkey vulture (<i>Cathartes aura</i>)	--/--	High, with foraging potential abundant.
Mountain plover (<i>Charadrius montanus</i>)	BCC/SSC MSCP Covered	Low. A rare visitor to San Diego County during winter, found in short-statured grasslands and fields.
Northern harrier (<i>Circus cyaneus</i>)	--/SSC MSCP Covered	High to forage; moderate to nest. Species has been observed off site.
Merlin (<i>Falco columbarius</i>)	--/SSC	Moderate in winter on site in the open grasslands.
Prairie falcon (<i>Falco mexicanus</i>)	BCC/WL	Moderate for foraging. Species has been observed flying over the 273-acre Lonestar site.
Peregrine falcon (<i>Falco peregrinus</i>)	BCC/SE Fully Protected	Low. Rare visitor to coastal areas of San Diego.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	BCC/SSC	High for foraging. Species has been observed just south of the 62-acre parcel.
Coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	FT/SSC	Moderate to high in sage scrub in the 20-acre parcel. Numerous off-site observations have occurred in the vicinity of Johnson Canyon.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE/SE MSCP Covered	Low. Appropriate habitat does not occur on site. Observed off site in Johnson Canyon.
Mammals		
California pocket mouse (<i>Chaetodipus californicus femoralis</i>)	--/SSC	Moderate in scrubby areas. Trapping necessary for detection but not warranted due to relatively low sensitivity.
Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	--/SSC	Moderate. Coastal sage scrub and ruderal areas. Trapping necessary for detection but not warranted due to relatively low sensitivity.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL/HABITAT
VERTEBRATES (cont.)		
Mammals (cont.)		
Greater western mastiff bat (<i>Eumops perotis californicus</i>)	--/SSC	Moderate foraging potential in coastal sage scrub and grassland areas. Focused surveys required for detection but not warranted due to relatively low sensitivity.
Mountain lion (<i>Felis concolor</i>)	--/-- MSCP Covered	Moderate. Main prey is mule deer, which has high potential to occur on site.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/SSC	High in grassland habitat on the mesa. Species has been observed in the vicinity.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	--/SSC	Moderate. Coastal sage scrub and other xeric areas are habitat. Trapping necessary for detection but not warranted due to relatively low sensitivity.
Southern mule deer (<i>Odocoileus hemionus fuliginata</i>)	--/-- MSCP Covered	High in grassland and sage scrub on site.
Southern grasshopper mouse (<i>Onychomys torridus ramona</i>)	--/SSC	Moderate. Could occur in arid habitats, including all shrublands. Trapping necessary for detection, but not warranted due to relatively low sensitivity.
Pacific pocket mouse (<i>Perognathus longimembris pacificus</i>)	FE/SSC	None. Occasionally found in coastal sage scrub along immediate coast. Trapping necessary for detection but not warranted, with appropriate habitat for species not occurring on site.

*Refer to Appendix E for a listing and explanation of status and sensitivity codes

EXPLANATION OF STATUS CODES
FOR PLANT AND ANIMAL SPECIES

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FT	Federally listed threatened
BCC	Birds of Conservation Concern

California Department of Fish and Game (CDFG)

SE	State listed endangered
ST	State listed threatened
SR	State listed rare
SSC	State species of special concern
WL	Watch list
Fully Protected	Fully Protected species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFG.

County of San Diego

Plant sensitivity:

Group A	Plants rare, threatened or endangered in California or elsewhere
Group B	Plants rare, threatened or endangered in California but more common elsewhere
Group C	Plants that may be quite rare, but more information is needed to determine rarity status
Group D	Plants of limited distribution and are uncommon, but not presently rare or endangered

OTHER CODES AND ACRONYMS

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the County has take authorization within MSCP area.

MSCP Narrow Endemic (NE) Species

Some native species, primarily plants with restricted geographic distributions, soil affinities, and/or habitats, are referred to as narrow endemic species. For vernal pools and identified narrow endemic species, jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.

Appendix E (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Native Plant Society (CNPS) Codes

Lists

- 1A = Presumed extinct.
- 1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.
- 2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.
- 3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.
- 4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A CA Endemic entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no threat code extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.